

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

TQ DELTA, LLC,	)	
	)	
Plaintiff,	)	C.A. No. -
	)	
v.	)	
	)	<b>JURY TRIAL DEMANDED</b>
ZYXEL COMMUNICATIONS, INC.	)	
and	)	
ZYXEL COMMUNICATIONS	)	
CORPORATION,	)	
	)	
Defendants.	)	

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff, TQ Delta, LLC (“TQ Delta” or “Plaintiff”), for its Complaint against Defendants, ZyXEL Communications Corporation and ZyXEL Communications, Inc. (collectively, “ZyXEL” or “Defendants”), alleges as follows:

**THE PARTIES**

1. TQ Delta, LLC (“TQ Delta” or “Plaintiff”) is a limited liability company organized and existing under the laws of the State of Delaware and having a principal place of business at 805 Las Cimas Parkway, Suite 240, Austin, Texas 78746.

2. Upon information and belief, ZyXEL Communications Corporation is a Taiwanese corporation and has a place of business at No. 6, Innovation Rd., II Science Park, Hsinchu, 300, Taiwan.

3. Upon information and belief, ZyXEL Communications, Inc. is a corporation organized and existing under the laws of the State of California and has a place of business at 1130 North Miller Street, Anaheim, California 92806.

## **JURISDICTION AND VENUE**

4. This action is for patent infringement under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

5. This Court has subject matter jurisdiction over this dispute pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over the Defendants because, on information and belief, Defendants conduct substantial business in this forum, including: (i) at least a portion of the acts accused of infringement herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided in this District.

7. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400(b) at least because, on information and belief, Defendants have transacted business in this District, and have committed, induced, and/or contributed to acts of patent infringement in this District.

## **BACKGROUND**

8. TQ Delta is the owner by assignment of a portfolio of patents relating to digital subscriber line (“DSL”) technology, including for example asymmetric digital subscriber line (“ADSL”) technology and very-high-bit-rate digital subscriber line (“VDSL”) technology.

9. DSL technology is used to provide broadband access to data networks, such as the Internet, via copper wires of a local telephone network. More recently, DSL has been used by telephone carriers to deliver video services to subscribers.

10. Inventors of the patents at issue in this case have been substantial contributors of valuable technology to various DSL-related standards on behalf of TQ Delta and, previously, Aware, Inc., a world-leading innovator and provider of DSL technologies.

11. Defendants make, use, sell, offer for sale, and/or import customer premise equipment (“CPE”) products, including without limitation modems, gateways, routers, and integrated access devices (“IADs”), that operate in accordance with various DSL-related standards (“DSL CPE Products”). Defendants also make, use, sell, offer for sale, and/or import central office equipment (“CO”) products, including without limitation DSLAMs, MSANs, and line cards, that operate in accordance with various DSL-related standards (“DSL CO Products”).

12. TQ Delta attempted to negotiate a license with Defendants under TQ Delta’s DSL patent portfolio. On June 26, 2013, TQ Delta sent a first letter to ZyXEL, including an overview of TQ Delta’s DSL patent portfolio and an invitation to open licensing discussions. Having received no response, TQ Delta sent a follow-up letter to Defendants on July 12, 2013.

13. On July 24, 2013, a representative of ZyXEL sent an email stating that ZyXEL is “studying the documents you provided internally. I anticipate it will take some time to reach a conclusion. I will contact you when we have questions.”

14. On July 25, 2013, TQ Delta responded to ZyXEL by email, stating that “It will be difficult for you to fully evaluate the TQ Delta portfolio without additional information, such as the identification of specific patents and their applicability to technologies used in DSL products and services. In order to provide this level of detail, we would like to enter into a confidentiality/standstill agreement to ensure that our discussions can take place outside the context of litigation.”

15. Not having heard from ZyXEL in response to TQ Delta’s July 25, 2013 email, on August 7, 2013, TQ Delta again sent an email to ZyXEL inviting licensing discussions and explaining that “the use of one or more patent claims in the [TQ Delta DSL patent] portfolio may be required to practice or otherwise comply with certain DSL-related Recommendations,

Deliverables and/or standards. TQ Delta is willing to negotiate a license with Zyxel on a non-discriminatory basis on reasonable terms and conditions with respect to any such standard-essential patent claims.” ZyXEL did not respond.

16. TQ Delta sent a further follow-up email on August 23, 2013. ZyXEL eventually responded on October 2, 2013, suggesting that its delay had been due to an email spam filter issue. After a brief exchange regarding a draft confidentiality agreement over October 2-3, 2013, ZyXEL failed to respond to further email communications. On October 29, 2013, TQ Delta sent a package by Federal Express to ZyXEL, including a copy of prior emails and a letter asking “if ZyXEL intends to enter into an NDA with TQ Delta so that we may move forward with license discussions.”

17. On November 12, 2013, ZyXEL and TQ Delta exchanged emails about the scope of the NDA. On November 25, 2013, TQ Delta sent a follow-up email seeking ZyXEL’s final position on the NDA by November 29, 2013. ZyXEL failed to respond.

18. TQ Delta made a good-faith effort to negotiate a license with Defendants under TQ Delta’s DSL patent portfolio but Defendants failed to engage in timely, good-faith negotiations.

19. Defendants have never applied for a license under TQ Delta’s DSL patent portfolio.

**COUNT I – INFRINGEMENT OF U.S. PATENT NO. 8,090,008**

20. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

21. On January 3, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,090,008 (“the ‘008 patent”), entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘008 patent. A copy of the ‘008 patent is attached as Exhibit 1.

22. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘008 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

23. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘008 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘008 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to Internet Service Providers (“ISPs”) and/or their customers with the intent to encourage those customers to infringe the ‘008 patent.

24. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘008 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘008 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the

United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '008 patent.

25. As a result of Defendants' infringement of the '008 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT II – INFRINGEMENT OF U.S. PATENT NO. 8,073,041**

26. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

27. On December 6, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,073,041 ("the '041 patent"), entitled "System and Method for Descrambling the Phase of the Carriers in a Multicarrier Communications System." TQ Delta is the owner and assignee of the '041 patent. A copy of the '041 patent is attached as Exhibit 2.

28. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '041 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

29. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '041 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more

claims of the '041 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '041 patent.

30. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '041 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '041 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '041 patent.

31. As a result of Defendants' infringement of the '041 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

### **COUNT III – INFRINGEMENT OF U.S. PATENT NO. 7,292,627**

32. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

33. On November 6, 2007, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,292,627 ("the '627 patent"), entitled "System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System." TQ Delta is the owner and assignee of the '627 patent. A copy of the '627 patent is attached as Exhibit 3.

34. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘627 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

35. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘627 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘627 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘627 patent.

36. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘627 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘627 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘627 patent.

37. As a result of Defendants’ infringement of the ‘627 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 7,471,721**

38. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

39. On December 30, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,471,721 (“the ‘721 patent”), entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘721 patent. A copy of the ‘721 patent is attached as Exhibit 4.

40. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘721 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

41. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘721 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘721 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘721 patent.

42. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘721 patent (at least as of the filing of this

Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '721 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '721 patent.

43. As a result of Defendants' infringement of the '721 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT V – INFRINGEMENT OF U.S. PATENT NO. 8,218,610**

44. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

45. On July 10, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,218,610 ("the '610 patent"), entitled "System and Method for Descrambling the Phase of Carriers in a Multicarrier Communications System." TQ Delta is the owner and assignee of the '610 patent. A copy of the '610 patent is attached as Exhibit 5.

46. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the '610 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

47. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '610 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '610 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '610 patent.

48. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '610 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '610 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '610 patent.

49. As a result of Defendants' infringement of the '610 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 8,355,427**

50. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

51. On January 15, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,355,427 (“the ‘427 patent”), entitled “System and Method for Descrambling the Phase of Carriers in a Multicarrier Communications System.” TQ Delta is the owner and assignee of the ‘427 patent. A copy of the ‘427 patent is attached as Exhibit 6.

52. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘427 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

53. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘427 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘427 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘427 patent.

54. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘427 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘427 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable

for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '427 patent.

55. As a result of Defendants' infringement of the '427 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT VII – INFRINGEMENT OF U.S. PATENT NO. 7,453,881**

56. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

57. On November 18, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,453,881 ("the '881 patent"), entitled "Systems and Methods for Mult-pair ATM Over DSL." TQ Delta is the owner and assignee of the '881 patent. A copy of the '881 patent is attached as Exhibit 7.

58. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '881 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1, G.998.2).

59. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '881 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '881 patent by selling, providing support for, and/or providing instructions for use

of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '881 patent.

60. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '881 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '881 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '881 patent.

61. As a result of Defendants' infringement of the '881 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT VIII – INFRINGEMENT OF U.S. PATENT NO. 7,809,028**

62. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

63. On October 5, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,809,028 ("the '028 patent"), entitled "Systems and Methods for Multit-pair ATM Over DSL." TQ Delta is the owner and assignee of the '028 patent. A copy of the '028 patent is attached as Exhibit 8.

64. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘028 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1).

65. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘028 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘028 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘028 patent.

66. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘028 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘028 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘028 patent.

67. As a result of Defendants’ infringement of the ‘028 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT IX – INFRINGEMENT OF U.S. PATENT NO. 7,978,706**

68. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

69. On July 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,978,706 (“the ‘706 patent”), entitled “Combining Multiple DSL Transceivers for a High Data Rate Connection.” TQ Delta is the owner and assignee of the ‘706 patent. A copy of the ‘706 patent is attached as Exhibit 9.

70. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘706 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1, G.998.2).

71. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘706 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘706 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘706 patent.

72. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '706 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '706 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '706 patent.

73. As a result of Defendants' infringement of the '706 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT X – INFRINGEMENT OF U.S. PATENT NO. 8,422,511**

74. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

75. On April 16, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,422,511 ("the '511 patent"), entitled "Systems and Methods for Multi-pair ATM Over DSL." TQ Delta is the owner and assignee of the '511 patent. A copy of the '511 patent is attached as Exhibit 10.

76. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the '511 patent by using (including for

purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.bond standard (e.g., G.998.1, G.998.2).

77. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '511 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '511 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '511 patent.

78. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '511 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '511 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '511 patent.

79. As a result of Defendants' infringement of the '511 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XI – INFRINGEMENT OF U.S. PATENT NO. 7,796,705**

80. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

81. On September 14, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,796,705 (“the ‘705 patent”), entitled “DMT Symbol Repetition in the Presence of Impulse Noise.” TQ Delta is the owner and assignee of the ‘705 patent. A copy of the ‘705 patent is attached as Exhibit 11.

82. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘705 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.inp (G.998.4) standard.

83. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘705 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘705 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘705 patent.

84. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘705 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘705 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the

United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '705 patent.

85. As a result of Defendants' infringement of the '705 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT XII – INFRINGEMENT OF U.S. PATENT NO. 7,889,784**

86. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

87. On February 15, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,889,784 ("the '784 patent"), entitled "Multicarrier Modulation Messaging for SNR Per Subchannel During Showtime Information." TQ Delta is the owner and assignee of the '784 patent. A copy of the '784 patent is attached as Exhibit 12.

88. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '784 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

89. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '784 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more

claims of the '784 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '784 patent.

90. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '784 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '784 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '784 patent.

91. As a result of Defendants' infringement of the '784 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

### **COUNT XIII – INFRINGEMENT OF U.S. PATENT NO. 7,835,430**

92. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

93. On November 16, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,835,430 ("the '430 patent"), entitled "Multicarrier Modulation Messaging for Frequency Domain Received Idle Channel Noise Information." TQ Delta is the owner and assignee of the '430 patent. A copy of the '430 patent is attached as Exhibit 13.

94. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘430 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

95. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘430 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘430 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘430 patent.

96. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘430 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘430 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘430 patent.

97. As a result of Defendants’ infringement of the ‘430 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XIV – INFRINGEMENT OF U.S. PATENT NO. 7,570,686**

98. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

99. On August 4, 2009, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,570,686 (“the ‘686 patent”), entitled “Systems and Methods For Establishing a Diagnostic Transmission Mode and Communicating Over the Same.” TQ Delta is the owner and assignee of the ‘686 patent. A copy of the ‘686 patent is attached as Exhibit 14.

100. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘686 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

101. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘686 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘686 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘686 patent.

102. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘686 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation

of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘686 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘686 patent.

103. As a result of Defendants’ infringement of the ‘686 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT XV – INFRINGEMENT OF U.S. PATENT NO. 8,238,412**

104. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

105. On August 7, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,238,412 (“the ‘412 patent”), entitled “Multicarrier Modulation Messaging for Power Level Per Subchannel Information.” TQ Delta is the owner and assignee of the ‘412 patent. A copy of the ‘412 patent is attached as Exhibit 15.

106. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘412 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

107. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘412 patent (at least as of the filing of this

Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘412 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘412 patent.

108. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘412 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘412 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘412 patent.

109. As a result of Defendants’ infringement of the ‘412 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT XVI – INFRINGEMENT OF U.S. PATENT NO. 8,432,956**

110. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

111. On April 30, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,432,956 (“the ‘2,956 patent”), entitled “Multicarrier Modulation

Messaging for Power Level Per Subchannel Information.” TQ Delta is the owner and assignee of the ‘2,956 patent. A copy of the ‘2,956 patent is attached as Exhibit 16.

112. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘2,956 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

113. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘2,956 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘2,956 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘2,956 patent.

114. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘2,956 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘2,956 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘2,956 patent.

115. As a result of Defendants' infringement of the '2,956 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XVII – INFRINGEMENT OF U.S. PATENT NO. 7,451,379**

116. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

117. On November 11, 2008, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,451,379 ("the '379 patent"), entitled "CRC Counter Normalization." TQ Delta is the owner and assignee of the '379 patent. A copy of the '379 patent is attached as Exhibit 17.

118. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '379 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

119. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '379 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '379 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '379 patent.

120. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '379 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '379 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '379 patent.

121. As a result of Defendants' infringement of the '379 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XVIII – INFRINGEMENT OF U.S. PATENT NO. 8,516,337**

122. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

123. On August 20, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,516,337 ("the '337 patent"), entitled "CRC Counter Normalization." TQ Delta is the owner and assignee of the '337 patent. A copy of the '337 patent is attached as Exhibit 18.

124. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '337 patent by making, using, selling, offering to sell, or importing, without

license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

125. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '337 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '337 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '337 patent.

126. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '337 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '337 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '337 patent.

127. As a result of Defendants' infringement of the '337 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XIX – INFRINGEMENT OF U.S. PATENT NO. 7,979,778**

128. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

129. On July 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,979,778 (“the ‘778 patent”), entitled “CRC Counter Normalization.” TQ Delta is the owner and assignee of the ‘778 patent. A copy of the ‘778 patent is attached as Exhibit 19.

130. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘778 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

131. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘778 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘778 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘778 patent.

132. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘778 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation

of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘778 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘778 patent.

133. As a result of Defendants’ infringement of the ‘778 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XX – INFRINGEMENT OF U.S. PATENT NO. 7,925,958**

134. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

135. On April 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,925,958 (“the ‘958 patent”), entitled “CRC Counter Normalization.” TQ Delta is the owner and assignee of the ‘958 patent. A copy of the ‘958 patent is attached as Exhibit 20.

136. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘958 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3), ADSL2+ (G.992.5), and/or VDSL2 (G.993.2) standards.

137. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '958 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '958 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '958 patent.

138. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '958 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '958 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '958 patent.

139. As a result of Defendants' infringement of the '958 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXI – INFRINGEMENT OF U.S. PATENT NO. 8,462,835**

140. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

141. On June 11, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,462,835 (“the ‘835 patent”), entitled “Impulse Noise Management.” TQ Delta is the owner and assignee of the ‘835 patent. A copy of the ‘835 patent is attached as Exhibit 21.

142. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘835 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

143. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘835 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘835 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘835 patent.

144. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘835 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘835 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable

for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '835 patent.

145. As a result of Defendants' infringement of the '835 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXII – INFRINGEMENT OF U.S. PATENT NO. 7,978,753**

146. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

147. On July 12, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,978,753 ("the '753 patent"), entitled "Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability." TQ Delta is the owner and assignee of the '753 patent. A copy of the '753 patent is attached as Exhibit 22.

148. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '753 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3) and ADSL2+ (G.992.5) standards.

149. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '753 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '753 patent by selling, providing support for, and/or providing instructions for use

of DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '753 patent.

150. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '753 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '753 patent, by selling DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '753 patent.

151. As a result of Defendants' infringement of the '753 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT XXIII – INFRINGEMENT OF U.S. PATENT NO. 6,445,730**

152. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

153. On September 3, 2002, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,445,730 ("the '730 patent"), entitled "Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability." TQ Delta is the owner and assignee of the '730 patent. A copy of the '730 patent is attached as Exhibit 23.

154. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the '730 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3) and ADSL2+ (G.992.5) standards.

155. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '730 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '730 patent by selling, providing support for, and/or providing instructions for use of DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '730 patent.

156. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '730 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '730 patent, by selling DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '730 patent.

157. As a result of Defendants' infringement of the '730 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXIV – INFRINGEMENT OF U.S. PATENT NO. 8,437,382**

158. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

159. On May 7, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,437,382 (“the ‘382 patent”), entitled “Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability.” TQ Delta is the owner and assignee of the ‘382 patent. A copy of the ‘382 patent is attached as Exhibit 24.

160. Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘382 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CO Products that operate in accordance with the ITU-T ADSL2 (G.992.3) and ADSL2+ (G.992.5) standards.

161. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘382 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘382 patent by selling, providing support for, and/or providing instructions for use of DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘382 patent.

162. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘382 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation

of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘382 patent, by selling DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘382 patent.

163. As a result of Defendants’ infringement of the ‘382 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXV – INFRINGEMENT OF U.S. PATENT NO. 7,836,381**

164. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

165. On November 16, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,836,381 (“the ‘381 patent”), entitled “Computer Readable Medium with Instructions for Resource Sharing in a Telecommunications Environment.” TQ Delta is the owner and assignee of the ‘381 patent. A copy of the ‘381 patent is attached as Exhibit 25.

166. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘381 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

167. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '381 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '381 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '381 patent.

168. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '381 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '381 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '381 patent.

169. As a result of Defendants' infringement of the '381 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXVI – INFRINGEMENT OF U.S. PATENT NO. 7,844,882**

170. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

171. On November 30, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,844,882 (“the ‘882 patent”), entitled “Resource Sharing in a Telecommunications Environment.” TQ Delta is the owner and assignee of the ‘882 patent. A copy of the ‘882 patent is attached as Exhibit 26.

172. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘882 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

173. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘882 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘882 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘882 patent.

174. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘882 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘882 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable

for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘882 patent.

175. As a result of Defendants’ infringement of the ‘882 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXVII – INFRINGEMENT OF U.S. PATENT NO. 8,276,048**

176. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

177. On September 25, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,276,048 (“the ‘048 patent”), entitled “Resource Sharing in a Telecommunications Environment.” TQ Delta is the owner and assignee of the ‘048 patent. A copy of the ‘048 patent is attached as Exhibit 27.

178. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘048 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

179. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘048 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘048 patent by selling, providing support for, and/or providing instructions for use

of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '048 patent.

180. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '048 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '048 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '048 patent.

181. As a result of Defendants' infringement of the '048 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

#### **COUNT XXVIII – INFRINGEMENT OF U.S. PATENT NO. 8,495,473**

182. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

183. On July 23, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,495,473 ("the '473 patent"), entitled "Resource Sharing in a Telecommunications Environment." TQ Delta is the owner and assignee of the '473 patent. A copy of the '473 patent is attached as Exhibit 28.

184. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘473 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

185. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘473 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘473 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘473 patent.

186. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘473 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘473 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘473 patent.

187. As a result of Defendants’ infringement of the ‘473 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event

less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXIX – INFRINGEMENT OF U.S. PATENT NO. 7,831,890**

188. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

189. On November 9, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,831,890 (“the ‘890 patent”), entitled “Resource Sharing in a Telecommunications Environment.” TQ Delta is the owner and assignee of the ‘890 patent. A copy of the ‘890 patent is attached as Exhibit 29.

190. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing one or more method claims of the ‘890 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T VDSL2 (G.993.2) standard.

191. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘890 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘890 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘890 patent.

192. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘890 patent (at least as of the filing of this

Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘890 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘890 patent.

193. As a result of Defendants’ infringement of the ‘890 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXX – INFRINGEMENT OF U.S. PATENT NO. 8,335,956**

194. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

195. On December 18, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,335,956 (“the ‘5,956 patent”), entitled “Packet Retransmission and Memory Sharing.” TQ Delta is the owner and assignee of the ‘5,956 patent. A copy of the ‘5,956 patent is attached as Exhibit 30.

196. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘5,956 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.inp (G.998.4) standard.

197. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '5,956 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the '5,956 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '5,956 patent.

198. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '5,956 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '5,956 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '5,956 patent.

199. As a result of Defendants' infringement of the '5,956 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXXI – INFRINGEMENT OF U.S. PATENT NO. 8,468,411**

200. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

201. On June 18, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,468,411 (“the ‘411 patent”), entitled “Packet Retransmission.” TQ Delta is the owner and assignee of the ‘411 patent. A copy of the ‘411 patent is attached as Exhibit 31.

202. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the ‘411 patent by making, using, selling, offering to sell, or importing, without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.inp (G.998.4) standard.

203. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘411 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘411 patent by selling, providing support for, and/or providing instructions for use of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the ‘411 patent.

204. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘411 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the ‘411 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable

for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the ‘411 patent.

205. As a result of Defendants’ infringement of the ‘411 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

**COUNT XXXII – INFRINGEMENT OF U.S. PATENT NO. 8,407,546**

206. TQ Delta hereby incorporates by reference Paragraphs 1 through 19 of this Complaint.

207. On March 26, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,407,546 (“the ‘546 patent”), entitled “Packet Retransmission and Memory Sharing.” TQ Delta is the owner and assignee of the ‘546 patent. A copy of the ‘546 patent is attached as Exhibit 32.

208. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that Defendants, in violation of 35 U.S.C. § 271(a), have been and are directly infringing the method claim of the ‘546 patent by using (including for purposes of testing or demonstration), without license or authority, DSL CPE Products and DSL CO Products that operate in accordance with the ITU-T G.inp (G.998.4) standard.

209. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the ‘546 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(b), have induced, and are inducing, the direct infringement of one or more claims of the ‘546 patent by selling, providing support for, and/or providing instructions for use

of DSL CPE Products and DSL CO Products to ISPs and/or their customers with the intent to encourage those customers to infringe the '546 patent.

210. Upon information and belief, a reasonable opportunity for further investigation or discovery will likely show that, with knowledge of the '546 patent (at least as of the filing of this Complaint and/or previously at least by willful blindness or otherwise), Defendants, in violation of 35 U.S.C. § 271(c), have contributorily infringed, and are contributorily infringing, the '546 patent, by selling DSL CPE Products and DSL CO Products to ISPs and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are especially made or especially adapted for use in an infringement of the '546 patent.

211. As a result of Defendants' infringement of the '546 Patent, TQ Delta has suffered damages and is entitled to monetary relief to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

### **PRAYER FOR RELIEF**

WHEREFORE, TQ Delta, respectfully requests that the following relief:

A. That the Court enter judgment in favor of TQ Delta that Defendants have infringed TQ Delta's '008 patent, '041 patent, '627 patent, '721 patent, '610 patent, '427 patent, '881 patent, '028 patent, '706 patent, '511 patent, '705 patent, '784 patent, '430 patent, '686 patent, '412 patent, '2,956 patent, '379 patent, '337 patent, '778 patent, '958 patent, '835 patent, '753 patent, '730 patent, '382 patent, '381 patent, '882 patent, '048 patent, '473 patent, '890 patent, '5,956 patent, '411 patent, and '546 patent;

B. That the Court enter an order declaring that Plaintiff has complied with any RAND obligations and further enter a permanent injunction under 35 U.S.C. § 283 enjoining Defendants and their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation with it, from infringement of TQ Delta's '008 patent, '041 patent, '627 patent, '721 patent, '610 patent, '427 patent, '881 patent, '028 patent, '706 patent, '511 patent, '705 patent, '784 patent, '430 patent, '686 patent, '412 patent, '2,956 patent, '379 patent, '337 patent, '778 patent, '958 patent, '835 patent, '753 patent, '730 patent, '382 patent, '381 patent, '882 patent, '048 patent, '473 patent, '890 patent, '5,956 patent, '411 patent, '546 patent;

C. That the Court enter a judgment and order under 35 U.S.C. § 284 requiring Defendants to pay TQ Delta its damages, costs, expenses, and pre-judgment and post-judgment interest for Defendants' infringement of TQ Delta's '008 patent, '041 patent, '627 patent, '721 patent, '610 patent, '427 patent, '881 patent, '028 patent, '706 patent, '511 patent, '705 patent, '784 patent, '430 patent, '686 patent, '412 patent, '2,956 patent, '379 patent, '337 patent, '778

patent, '958 patent, '835 patent, '753 patent, '730 patent, '382 patent, '381 patent, '882 patent, '048 patent, '473 patent, '890 patent, '5,956 patent, '411 patent, and '546 patent;

D. That the Court find this case exceptional under 35 U.S.C. § 285, and award TQ Delta its costs and fees in this action, including reasonable attorneys' fees and pre-judgment interest thereon; and

E. That the Court grant TQ Delta such other and further relief as it deems just and proper.

**DEMAND FOR JURY TRIAL**

TQ Delta, pursuant to Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable.

DATED: December 9, 2013

Respectfully submitted,

FARNAN LLP

/s/ Brian E. Farnan

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